

ABSTRACT OF THE DISCLOSURE

A transconductance amplifier with multi-emitter structure for balancing current of a multi-phase regulator including multiple transistors, a bias current device, multiple current mirrors, and multiple current sources. Each transistor has first and second current terminals and a current control terminal receiving a corresponding one of multiple sense voltages. Each sense voltage is indicative of output inductor current of a corresponding phase of the multi-phase regulator. The bias current device is coupled to the first current terminal of each transistor. Each current mirror has an input coupled to a second current terminal of a corresponding transistor and an output coupled to a corresponding one of multiple correction nodes. Each current source is coupled to a corresponding one of multiple correction nodes. In this manner, each correction node provides a correction current for a corresponding phase of the regulator.